

An Investigation of Sprawl Development and Its Effect On Transportation Planning: The Lower Savannah Region of Government

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ABSTRACT

Sprawl development is a highly controversial topic these days in communities throughout the United States. In most instances, the term sprawl development provokes issues of negative land development practices such as increased traffic congestion, environmental degradation and loss of open space and farmland. There is no universal acceptance among researchers, politicians, special interest groups and the general public about the true impact of sprawl development in their respective communities or jurisdictions. Many critics have identified isolated findings that support some of their beliefs about sprawl development while not totally acknowledging the positive benefits of such development.

Controversy continues to exist among community leaders, local government officials, special interest groups and the general public about what is the best approach for a community to produce a solid economic base for its citizenry, to protect the environment and to promote livable sustainable communities. Communities throughout South Carolina have adopted some version of “smart growth” development strategies. According to the most recent Planning Literature, an adoption of the appropriate “smart growth” strategies would produce communities that are responsive and compatible with the environment while simultaneously providing economic rewards and social gratification to all sectors and interests in the community.

The State of South Carolina is in its embryonic stage of adopting “smart growth” strategies. The State in 1994 enacted the South Carolina Local Government Comprehensive Planning Act. The primary purpose of the act was to consolidate all existing planning laws into one and to give local governments the authority to adopt comprehensive plans to guide growth and development within their borders. Other states like Vermont, Florida, Maryland, Pennsylvania, New Jersey, and Oregon, have passed and implemented legislation to address sprawl development. This research focused primarily on local government official responses to growth questionnaires and in-depth interviews. The data gathered reflect similar findings experienced by the rural counties within the State of South Carolina. Specific implications for controlled development standards have been identified as significant factors for land-use decisions.

I. INTRODUCTION

South Carolina is developing land four times the rate of its population growth, with almost all the development in towns and metropolitan areas and along interstates. In a recent study on urban sprawl by the Department of Natural Resources, it was found that the amount of developed land in South Carolina increased 60 percent from 1983 to 1998. The state's population increased only by 15 percent during the same period. According to the U.S. Department of Agriculture, South Carolina is losing about 107,000 acres of open space per year to development, the ninth highest rate in the nation.

Many counties are curbing sprawl with new land-use regulations. Beaufort, Charleston and Richland counties have enacted strict land-use regulations while York and Berkeley counties have begun paying landowners – either buying land or paying the owners – to prevent development. These land-use programs are gaining acceptance on the local, state and national levels. However, many of these land-use plans have encountered opposition from landowners and property-rights advocates, who argue that the land-use regulations infringe on their rights to develop their land. Sprawl is a complex, multidimensional phenomenon, with no easy solutions. There is no agreement about the severity and depth of the problem because many of the contributing factors, such as homes on large lots, low industrial and commercial structures, and abundant parking availability are considered desirable.

The term “Sprawl Development” is commonly used in communities throughout the nation to highlight development that produces auto dependent transportation, traffic congestion, degradation of the environment, reduced open space, high infrastructure, and public service costs. In addition, citizens, policy makers and community leaders charge “sprawl development” with being responsible for the decline of Central Business Districts (CBDs) in most urban areas. Business relocations outside municipalities are another well-known phenomenon associated with sprawl. All of the above descriptions of sprawl development have been accepted to some degree by decision-making bodies (i.e. city/county councils, state legislatures, congress) to deal with land-use and growth control in their respective jurisdiction.

Normally sprawl development is defined as either being urban/suburban or rural. This research project will focus on rural sprawl development because the Lower Savannah Region consists of rural counties. The rural definition of sprawl development in the region involves land-use practices that allow large lot subdivisions (2-10 acres in size), auto dependent transportation, low-density residential land development, extensive use of wells and septic tanks and very little land-use controls (i.e. development standards, comprehensive plans, zoning or other growth management techniques).

A primary objective of this research project is to thoroughly examine the impact sprawl development has in the Lower Savannah Region and Orangeburg County specifically in relation to transportation planning.

II. Literature Review

Sprawl development is rapidly devouring farms and open spaces in South Carolina. The South ranks fourth in the nation in the loss of rural lands, much of it being developed into residential subdivisions, shopping areas or industry (Clemson University, 1999).

In South Carolina land conservation has been sporadic. A little more than 10 percent of the state's 19.2 million acres are publicly owned. Recently, a poll commissioned by Smart Growth America, a national coalition of more than sixty public interest groups, made clear that the public wants to get a handle on urban sprawl. Seventy-eight percent of those polled support policies to curb sprawl, preferring government policies which give priority to maintaining services, and infrastructure

in established communities. More than 80 percent want more cooperation among local governments, zones for green spaces and farmland and tax incentives to renovate old houses and revitalize economically depressed neighborhoods.

In a USA Today report, Columbia, Myrtle Beach, Sumter and Greenville ranked as some of the fastest sprawling cities in the country. The national newspaper looked at the change in population densities of 271 cities over the past ten years. Sumter ranked fifth and Columbia ranked fifty four in the index. Four of the five fastest sprawling cities were located in the southeastern region – Number 1- Nashville, Number 2-Charlotte, Number 3 – Greensboro, NC and Number 5 – Atlanta. (Source USA Today, February 22, 2001, p.6A.)

In the wake of urban sprawl, many states have adopted “smart growth initiatives”. Twelve states have adopted growth-management plans, and seven other states have proposed major land purchases to limit development into open spaces. New Jersey for example, has issued bonds to raise \$1 billion for green-area protection over the next 10 years. Portland, Oregon, instituted the toughest anti-sprawl plan with a conservation zoning measure named an “urban growth boundary”. Regional officials since 1979 have drastically slowed development outside of an area that covers 24 municipalities and three counties. Maryland has begun a so-called “Smart Growth” plan that limits financing of roads and other infrastructure beyond the metropolitan edges and encourages development in already settled communities. Last year, South Carolina legislators began talking about the need for smart-growth planning here in the State. With 108,000 acres a year converted from open space to development, South Carolina ranks 11th nationally in green-space losses, a high ranking for a small state (Palmetto Conservation Foundation, February 2000).

Charleston County recently passed a plan that would set density levels in some rural areas at one house for every three to twenty-five acres, depending on the location. The plan is intended to provide the framework to prevent sprawling development in outlying regions. The plan also calls for the purchasing of rural development rights to control sprawl (Tibbetts, 2000).

Studies (Anderson, 2000; Esseks et. al, 1998; Sierra Club, 1998; Burchell, 1996; Bania, et.al, 1999) have shown that local governments spend more money to provide public services to communities built in the suburbs especially when roads, sewer systems and other infrastructure in the urban area are not fully utilized. In a report by the University of Central Florida, researchers found the cost of providing roads, sewer systems, schools, and other services to a home downtown was \$9,252, compared with \$16,260 for a home in the suburbs.

Rutgers University's Center for Urban Policy Research analyzed different growth scenarios for South Florida in 1998. The group found local governments could save \$1.7 billion and the state could save \$287 million over 25 years in land acquisition, road-building and ongoing service costs by limiting sprawl.

In 1998, the Transportation Research Board and the National Research Council compiled research from around the country. Their report cited a New Jersey study showing sewer, water, road and school costs were nine percent (9%) higher for scattered development.

Urban sprawl is clearly a financial issue. A 1989 review of nine major studies of the cost of urban sprawl concluded in part: When all capital costs are totaled (neighborhood plus community) for streets, sewers, water, storm drainage, and schools, the total cost for low-density (3 dwelling units per acre) sprawl (noncontiguous growth) is slightly more than \$35,000 per dwelling unit for central sewerage and water, full curb and gutter, and urban drainage. Further, if that development is located 10 miles from the sewage treatment plant, the central water source, the receiving body of water, and the major concentration of employment, almost \$15,000 per dwelling unit is added to the cost, for a total of \$48,000 per dwelling, excluding housing and land costs. In the most extravagant circumstance, that of estate zoning at 1 dwelling unit per 4 acres with full improvement standards and located 10 miles from all central services, the total cost surpasses \$92,000 per dwelling unit (Esseks, 1999).

Other studies document cost-savings associated with more compact development patterns. A study of density-related public costs in Loudoun County, Virginia found that net public revenue shortfalls occurred from new residential development for all densities tested from 1 unit per acre to 4.5 units per acre. Net public costs per new dwelling unit were estimated to be approximately 3 times higher for the areas. It was determined that for every dollar in tax revenues received by the county, \$1.28 in services was demanded by residential land uses, whereas only \$0.11 in services was demanded by open farmland (American Farmlands Trust, 1985). According to Robert W. Burchell, planned development consumes 20 percent to 45 percent less than does scatter development. Likewise, infrastructure costs are lower in planned development than in sprawl: 15 percent to 25 percent less for water and sewer lines. Housing costs and overall fiscal impacts also favor planned development but exhibit less of a difference from sprawl (Burchell, 1995).

Sprawl development has social and economic consequences. The first impact of sprawl development pulls jobs and amenities further away from the city core. Land-use development is expanding at the urban fringe at an unprecedented clip nationwide, with land consumption rates far exceeding population growth (Greengs, 2000; Warren, 1997). Nationwide, for example, over 13 million farmland acres changed to urban uses between 1982 and 1992, representing an increase in land conversion of 25 percent, even though population increased by only 11 percent. Two-thirds of all jobs nationwide between 1960 and 1980 went to the suburbs, where over 60 percent of all jobs are now located (Wenges, 1999). For example, in Ohio the amount of land developed around urban areas between 1960 and 1990 grew more than five times as fast as the population (Times Magazine, May, 2000).

Second, the growing spatial distance between people and employment opportunities is amplified by the lack of adequate transportation to take advantage of the job opportunities. At the national level, thirty-one (31) percent of African-Americans households are without automobiles, compared to 8.7 percent of white households (Ong, 1998).

People who do not own cars and live in neighborhoods of concentrated poverty without supermarkets must choose either to pay high prices to shop locally or pay with their time, effort, and money to travel (Danziger, et.al, 1999). Either option leads to higher costs and usually for people who can least afford to pay for them (Marx and Salant, 1996).

There are four major strategies for dealing with sprawl: 1) Set Growth Boundaries; 2) Purchase Land; 3) Build Mass Transit Systems; and 4) Restore Inner Cities. Portland, Oregon is considered the anti-sprawl mecca of America. In 1979 the region passed one of the toughest zoning regulations in U. S. history. It created an imaginary line that circles the metropolitan area. All new construction must take place on the 367 square miles inside the circle. Outside the line, there can be no development for miles (CBS News, 61 <http://cbsnews.com> 2000). The plan has kept sprawl in check, but competition for limited space has made the city an expensive place to live.

If county and state governments want to protect land, the best way is to purchase the land and remove it from the market. New Jersey issued bonds to raise \$1 billion for preservation of farms and woodlands, and the U. S. Congress mandates the use of \$900 million each year to purchase undeveloped land, though it falls short of allocating the full amount.

Communities in South Carolina are beginning to understand the benefits of restoring existing downtown areas. Richland County's Town and Country plan and Mount Pleasant's boundary line plan are two examples of restoring existing infrastructure. But South Carolina's smaller towns have the greatest challenge ahead because they have fewer resources at their disposal (Palmetto Conservation, February 2000). In York County, city planners identified and protected the downtown historic resources and channeled development towards the city center. As part of a plan to revitalize downtown Greenville, the city reduced Main Street from four lanes to two, added pedestrian scale lighting, angled

parking, landscaping and parks. Since 1981, downtown employment has doubled, commercial occupancy rates have increased from 74 to 96 percent and food sales increased by 80 percent from 1993 to 1998 (City of Greenville, 1998).

The town of Hilton Head has acquired nearly 1,000 acres since it began buying land in 1988 to limit development and control growth. A transfer fee the town charges on all real estate transactions finances the land bank program. In its first acquisition, the town paid \$1.5 million for 5.4 acres, now Coligny Beach Park. In 1991, the town bought 15 acres of oceanfront land for \$4 million, recently the town bought three tracts totaling 225 acres for about \$10.4 million from the Resolution Trust Company which was liquidating assets after the savings and loan scandal of the 1980s.

Town residents have supported three multimillion-dollar land-buying bond referendums - \$15 million in 1997, \$12 million in 1998, and \$20 million last year. Each has used property taxes, including a 2-mill increase that was part of last year's referendum. (The State Newspaper, March 9, 2001).

Beaufort and Berkeley counties have recently begun paying landowners either by buying land outright or paying them to prevent development. These programs satisfy property right advocates because they compensate landowners and please smart-growth advocates because they prevent development (The State, March 9, 2001)

The fiscal impacts of sprawl development can be summarized as:

- do not generate enough taxes to educate the children who live there;
- fall short of paying to maintain the roads leading to and through their subdivisions;
- and, where municipal water and sewer services are unavailable, other taxpayers may pay the costs of building that infrastructure.

Several studies show that those living in these remote locations often face some increased risks to their personal safety. In the areas studied:

- police response times were as much as 600 percent longer, on average, than in the adjoining municipality
- ambulance response times were as much as 50 percent longer
- fire response times were as much as 33 percent longer (Esseks et.al, 2000)

"Studies conducted over the last 30 years have concluded that when development is spread out at low densities, the per-unit cost of constructing and maintaining public facilities increases. The reason for this is that low-density development requires more miles of roads, curbs, sewers, and water lines; and municipal services must be delivered over a greater geographic area." (The Urban Land Institute), (The Case for Multifamily Housing, 1991).

III. GROWTH IN SOUTH CAROLINA

South Carolina, once considered an agricultural state with little inclination for mixed growth, has begun to experience rapid residential, commercial and industrial growth thus putting itself on a sprawl growth path. Between 1992 and 1997, the state converted about 539,700 acres of farmland into other development making it ninth in the nation in total land conversion (Business and Economic Review, the University of South Carolina, Darla Moore School of Business, February, 2001). Given South Carolina's population to land area ratio, this level of land conversion makes the state rank fourth in the nation.

South Carolina is converting raw land to a built environment at six times the rate of its population growth (Business and Economic Review, the University of South Carolina, Darla Moore School of Business February, 2001). During the 1980's the state's rate of land conversion was 13 percent. It rose slowly to 14 percent by the early 1990's and by the late 1990's to more than 30 percent (Ibid, Business and Economic Review). All of this growth and development is taking place without a state coordinating agency, state growth vision strategy, or centralized leadership. Presently, local communities in the state have been given the authority to adopt independent strategic plans and visions to direct and control land development within their borders. Furthermore, there is no state mandate requiring local units of government to adopt and implement growth control policies unless the communities have done so in the past. This state policy makes sprawl development easier for those individuals and groups interested in converting land at will into developed property without regard to the consequences. This decentralized optional growth control policy by the state makes South Carolina vulnerable to all types of uncontrolled development.

A. REGIONAL OVERVIEW LOWER SAVANNAH COUNCIL OF GOVERNMENTS

The Lower Savannah Council of Governments is a regional planning agency governed by a board of directors comprised of elected officials representing the six (6) participating counties.

The Lower Savannah Council of Governments (LSCG) is one of ten regional government bodies in the State of South Carolina. The Lower Savannah Region is located in the south-central portion of the state and includes six counties: Aiken, Allendale, Bamberg, Barnwell, Calhoun and Orangeburg. The region encompasses a total area of 3,981 square miles and contains a population of approximately 267,600 people. There are forty-five (45) municipalities within the region. The Council of Governments is the designated entity for providing planning and development services for its member counties. The region's physical characteristics (i.e. low density development patterns) are indicative of the general rural nature of the state. The region is the fifth largest in the state and has the third highest percentage of households without access to an automobile (12-14 percent). It also has the third highest percentage of persons below the poverty line.

Figure I
DEMOGRAPHICS

Demographic Character	1990	1996/1997
Population	267,600	284,700 (1)
Percent Rural	53%	55% (2)
Per Capital Income	\$5,400	\$10,900 (3)
Percent Below Poverty Line	20%	20% (2)
Percent of Housing Unit w/o Cars	14%	14% (3)

- (1) July 1, 1995 Estimate
(2) April, 1990 Census
(3) Based on 1989 Census

Figure II
POPULATION TRENDS BY COUNTY

	Historical			Projections		
	1970	1980	1990	1995	2000	2010
Aiken	91,023	105,625	120,940	131,900	139,000	152,600
Allendale	9,783	10,700	11,722	12,000	12,500	13,200
Bamberg	15,590	18,118	16,902	17,000	16,800	16,600
Barnwell	17,176	19,868	20,293	21,600	22,900	26,200
Calhoun	10,780	12,206	12,753	13,200	13,600	14,000
Orangeburg	69,789	82,276	84,803	89,000	92,100	97,200
South Carolina	2,590,713	3,121,820	3,486,703	3,741,700	3,976,800	4,486,700

Source: Lower Savannah Council of Governments/US Census

These statistics indicate a positive growth rate in the region. The projections, with much variation in percentages, are also positive in forecasting future population changes. All of these increased population changes are occurring in a region without any centralized agency or institution being responsible for coordination and directing land-use decisions. As a result of this practice, counties throughout the region are allowing land-use decisions to be made that adversely impact those citizens without access to transportation, farmland protection, open space availability and general service costs to local government. This research project focuses primarily on the consequences of local county government land-use decisions and their impact on the level of transportation services provided to those citizens in need.

In 1994, the General Assembly of South Carolina adopted and Governor Beasley signed the Comprehensive Enabling Planning Act that requires those communities with existing land-use regulations in place to adopt comprehensive plans while those communities without regulations have the option of not adopting a comprehensive plan. According to the Act, a community may or may not include zoning in its comprehensive plan thus making timely and proper growth standards nearly impossible. This fragmented implementation approach to land-use decisions as spelled out in the 1994 Planning Act may be considered the foundation for sprawl development found in the Lower Savannah Region and the state. It should be mentioned, presently, the State of South Carolina does not have a centralized agency responsible for the administration and implementation of the 1994 Enabling Planning Act. Therefore, each local unit of government is authorized by the state statute to adopt and implement comprehensive plans according to their resources and capabilities.

Statewide twenty seven (27) counties (51%) out of a total of forty six (46) have adopted a comprehensive land use plan. According to the South Carolina Association of Counties survey, twenty

three (23), which is a total of 50%, counties have adopted zoning as part of their comprehensive plan. Those counties with zoning were asked to give an explanation why it was included in their comprehensive plan. Answers to this question reflected immediate local concerns defined by local interest groups and political leaders. The following list summarizes the various responses from the counties:

- Ten (10) counties mentioned concerns of growth and orderly development.
- Eight (8) counties have zoning to preserve residential uses, agricultural uses, rural landscapes, natural areas and/or property values.

Other responses include minimizing conflicting land uses, controlling the number of mobile homes and subdivisions, and promoting the public health, safety, morale and welfare. All of these plans and zoning programs were adopted independently of a state or regional master plan. The following chart gives a profile of planning programs in the Lower Savannah Region. (Figure III)

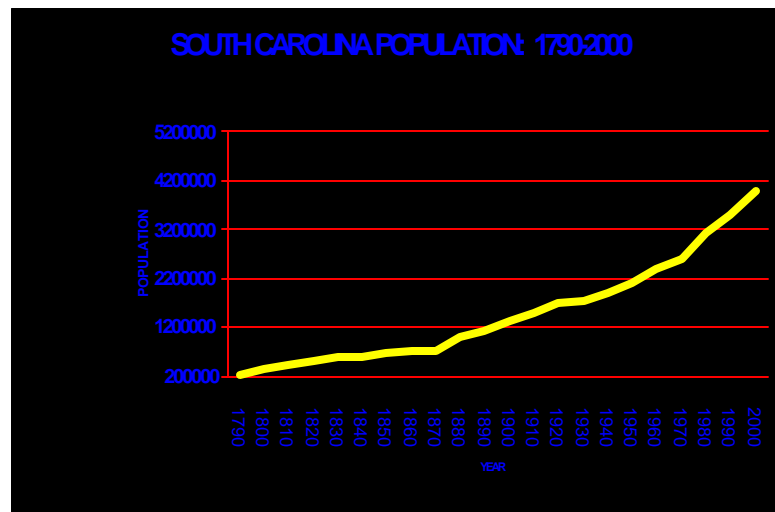
Figure III
**PROFILE OF COUNTIES PLANNING PROGRAMS
(LSCOG)**

	Planning Commission	Comprehensive Plan	Zoning
Aiken	Yes	Yes	Yes
Allendale	No	No	No
Bamberg	No	No	No
Barnwell	Yes	*No	*No
Calhoun	Yes	Yes	*No
Orangeburg	Yes	Yes	No

*In the Adoption Process

This profile reinforces the uncontrolled growth control attitude found at the State level, thus paving the way for continued sprawl development to run rampant in the Lower Savannah and other regions in the state.

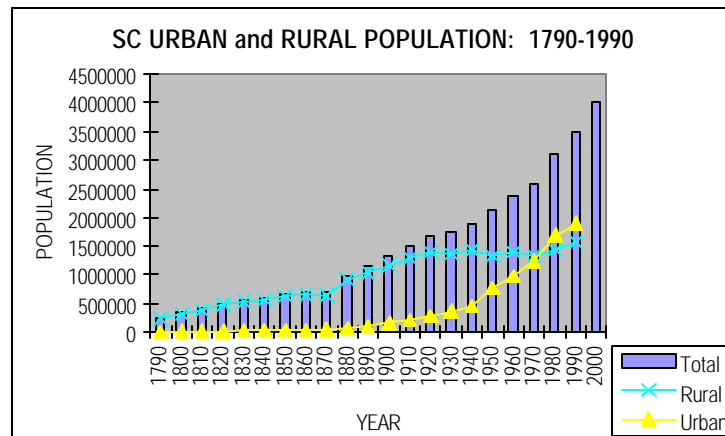
Figure IV



Source:(1790-1890) Julian J. Petty, Twentieth Century Changes in SC Population; (1900-1990 US Bureau of the Census)

The State of South Carolina has grown moderately in population from 249,073 people in 1790 to 4,012,012 in 2000 (US Census – [Figure IV](#)). These numbers represent a growth trend progressing from a rural to a more urbanized state. There are forty six (46) counties in the state. Growth among the counties and regions has not been balanced. In 1990 twenty-two (22) counties consisting of 2,868,784 people (82.3%) while the other twenty-four (24) counties totaled 617,919 people or (17.7%) (SC Data Center). County growth rates have generally been the most dynamic in the urban areas of the state. Between 1970 and 1990, three coastal counties in the Charleston and Myrtle Beach regions (Dorchester, Berkeley, Horry) are considered exceptional growth areas because they each grew more than 100 percent. Dorchester County grew 157.3%, Berkeley 129.1% and Horry 105.8% (South Carolina Statistical Abstract, 1999). Lexington County, receiving residents from the Columbia area, increased its population by over 88%. Beaufort County influenced by the growth surrounding Hilton Head, has historically gone from a population of 21,815 in 1930 to 44,187 in 1960 to 86,425 in 1990 culminating a 69% increase in population. York County, which is considered by many as a Charlotte suburb, grew by nearly 55% from 1970 to 1990. The Upstate counties along I-85 corridor in the Greenville/Spartanburg region all showed growth rates in excess of 30%. The State's rural counties have not kept pace with the population growth experienced by other counties; therefore, those citizens have different opinions about the definition and impact of sprawl development in their communities. Counties such as Lee, Dillon, Williamsburg and Marlboro in the Pee Dee regions along with Chester and Union Counties in the upstate and Bamberg County in the Lower Savannah Region all posted growth rates under 10% (SC Statistical Abstract, 1999).

Figure V



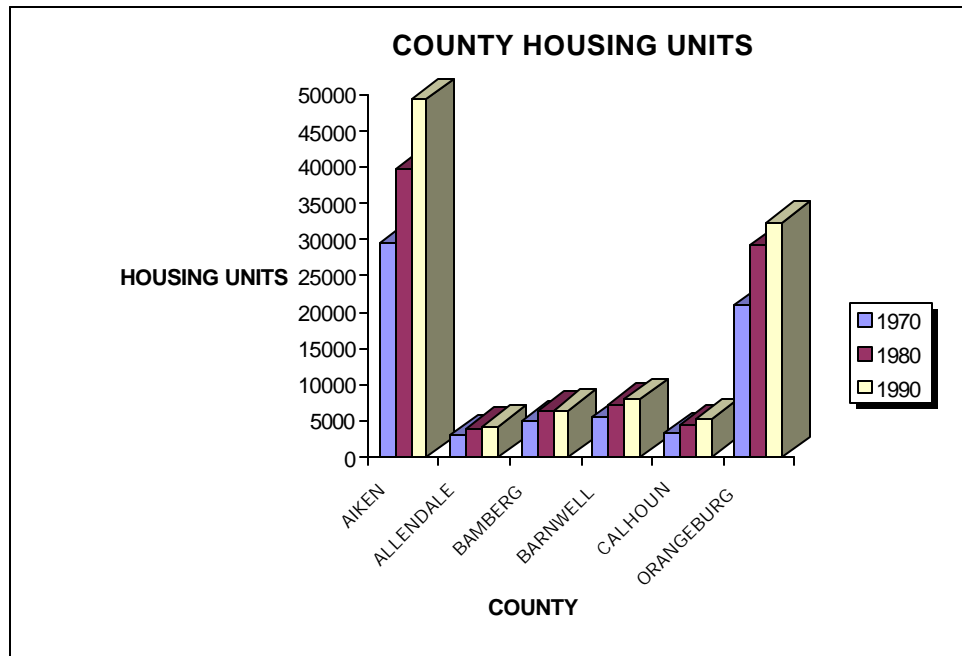
(Source: SC Statistical Abstract, 1999)

The Lower Savannah Region counties, Barnwell, Calhoun, Allendale, Aiken and Orangeburg experienced 10% or more population growth over the past twenty (20) years. Overall, South Carolina has a population of 1,905,378 (55%) inhabitants living in urban areas and a population of 1,581,325 (45%) inhabitants living in rural areas (US Bureau of the Census). The number of inhabitants projections for the state indicate growth will continue in the near future to reach a population of 4,400,000 by the year 2010 (SC Statistical Abstract, 1999).

The positive growth the state is experiencing is incidental to market demands with little control or mandatory guidelines to manage it. This policy approach by the state allows communities to become victims of sprawl development. The number of housing units constructed in the state between 1970 and 1990 has greatly impacted land-use patterns and transportation service in the state. In 1970, 815,123 housing units were constructed in the state, 1,154,118 units in 1980 and a total of 1,424,155 new units in 1990 (US Bureau of the Census). A majority of these housing units were built in communities without comprehensive plans, subdivision regulations, administrative bodies or state regulatory agencies. Within the Lower Savannah Region of the State, only one county, Aiken, has a comprehensive plan with zoning to manage growth within its borders. A total of 262,967 new housing

units were constructed in the Lower Savannah Region between 1970 and 1990 (US Census) - Figure VI. Statewide, twenty-three (23) out of forty-six (46) counties have comprehensive plans and zoning. Orangeburg County alone issued 11,849 new housing permits from July 1991 to December 2000 (Orangeburg County Permitting Department). All of the permits were given to developers and citizens without regulations to direct growth.

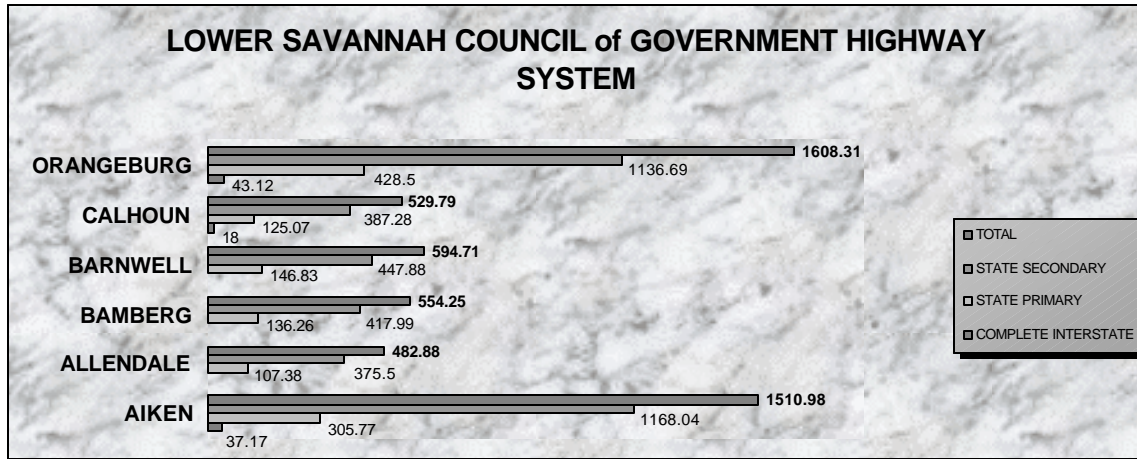
Figure VI



Source: US Census Bureau

It is evident in permit construction reports; the State of South Carolina's residential development is generally geared toward construction of single-family houses. In 1997, 20,604 single-family houses were permitted in South Carolina. In 1998, 22,571 single-family houses were built in the state (US Census). In addition to housing units, the state issued 20,604 and 22,671 construction permits for buildings in 1997 and 1998 respectively (US Census). There is an underlying correlation in the general land-use development practices in the state between the availability of roads, highways and interstates and the volume of sprawl.

Figure VII



(Source: SC Department of Transportation, May 1999)

As of 1998, the state has eight hundred twenty eight and eight-tenths (828.8) miles of completed interstate highway, nine thousand four hundred seventeen (9,417) miles of primary roads and thirty one thousand two hundred ninety (31,290) miles of secondary roads (SC Department of Transportation). Combined, these roads give South Carolina a total network of 41,536.89 miles of road. The Lower Savannah Region of the state has a total of five thousand two hundred eighty (5,280) miles of road – Figure VII. In addition, the region has thousands of miles of unpaved roads that attract development. This combined network of state and county roads with minimal development regulations provides opportunities for interested developers or landowners to easily convert primary farmland into residential and commercial areas. Statistics show that employees in the region are driving farther distances and spending more time on the road. According to statistics, employees sixteen years old or older are forced to drive alone or carpool to work because there is little public transportation in the region. The following chart captures the growing trend of automobile dependency in the region: See Figure VIII.

Figure VIII

County	Total Workers 16+	Drive Alone	Carpooled
Aiken	54,424	74.5	20.8
Orangeburg	34,473	70.4	22.5
Barnwell	8,555	67.6	27.1
Bamberg	8,555	63.5	26.5
Calhoun	5,514	72.1	21.0
Allendale	3,940	64.8	25.9

The Lower Savannah Council of Governments, transportation providers, county officials, state officials and interested citizens are in the planning process of projecting future transportation needs in the region. These individuals and groups are reacting to an inadequate transportation service system that was produced as a result of sprawl generated by minimum consideration and anticipation of land-use planning and transportation on behalf of planning officials.

B. ORANGEBURG COUNTY AND SPRAWL DEVELOPMENT

According to the US Census Bureau Orangeburg County has increased in population by eight percent (8%) from 1990 to 2000 (US Census Bureau). There are 91,582 residents in the county now compared to 84,803 in 1990 (US Census Bureau). This eight percent (8) growth rate is well below the overall state growth rate of fifteen percent (15%). Orangeburg County's growth rate is considered moderate when compared with other counties in the State.

Planning officials, politicians, city, county and state leaders traditionally have challenged the accuracy of the US Census report. Most communities rely heavily on their local building permit offices to better determine growth and population changes. The Orangeburg County building permit office issued a total of eleven thousand eight hundred forty nine (11,849) permits between July 1991 and December 2000 (William Fogle, Orangeburg County Building Permit Office). The number of building permits issued by the county office confirms the discrepancies that may exist between the census count and the local jurisdiction. The US Census Bureau reported the county having an additional 6,779 residents. Positive growth, as experienced by Orangeburg County, is normally welcome in most rural communities. This growth has occurred in a community without the necessary land-use controls and guidelines in place to make it cost effective in providing access to basic human services. The eleven thousand eight hundred forty nine (11,849) building permits issued over the past decade were randomly given to homeowners to erect their homes countywide without concern about land-use patterns and service delivery. For example, the County of Orangeburg is charged with responsibility of providing the same level of service to residents living three (3) miles from the county's service center to forty-five miles in an east-to-west direction.

Since 1990, two hundred thirty-five (235) new subdivisions, ranging in size from five (5) lots to two hundred fifty (250) lots, have been built in the County (Orangeburg County Planning Department). These subdivisions, much like the building permits, have been established without defined land-use restrictions thus allowing sprawl development. In addition, unlimited residential development, and commercial activity run rampant as well as complaints in the county resulting from sprawl development. These complaints come to the local officials in the form of public service requests. Some of these complaints are sprawl related include: the increases in ambulance response time to 911 calls, the need for more fire substations throughout the county, the need to consolidate or relocate schools, hiring of additional law enforcement officers and mostly the need to provide public transportation for those citizens without access to vehicles. Statistics show that 17,000 persons need public transportation because of health related illnesses. In addition, other citizens, teenagers, and the elderly do not own vehicles.

Without proper county planning, sprawl development will persist in Orangeburg County. There will always be a mismatch between residential development and job centers. Public Service centers will be accessible to the majority of the population with a growing underserved segment.

IV. TRANSPORTATION AND LAND DEVELOPMENT SURVEY ANALYSIS

Survey questionnaires were sent to County Administrators, Planning Commission Chairmen, and Planning Directors in all six counties in the LSCOG between July 25 and August 25, 2000. The primary purpose of the questionnaires was to ascertain empirical data from county officials on the impact of sprawl development on transportation planning in the LSCOG. A secondary goal was to gather information on land-use decisions and their effects on sprawl development. We had one hundred percent return on the survey which included all six (6) county officials in the targeted area.

The survey questionnaire consisted of a combination of open and closed ended questions (see Appendix A.) The researchers designed questions that would document the relationship between land-use decisions, sprawl development and transportation planning. Despite, the large number of registered vehicles per county; many citizens in the region do not have access to any transportation.

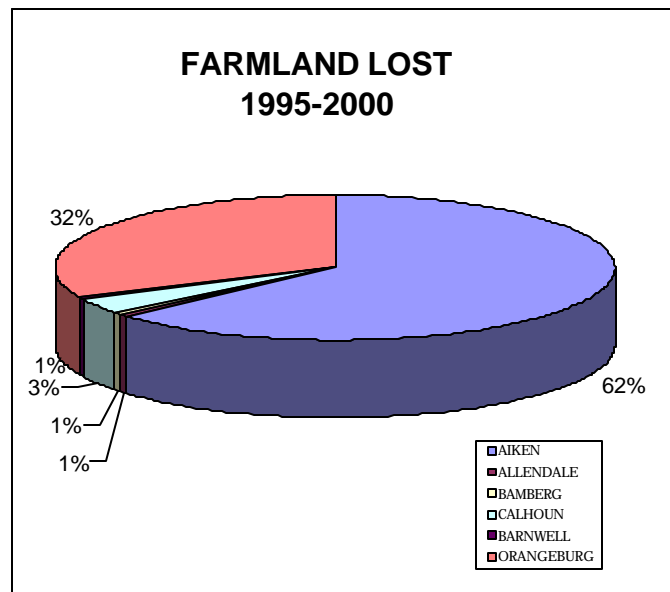
Findings

The remainder of this section will highlight the findings from the survey questionnaires. Ninety nine percent (99%) of the counties reported increases in population from 1980 to 1990. Bamberg County did not experience positive growth during this time period. Four (4) of the six (6) counties are

experiencing both residential and commercial growth simultaneously. Allendale and Bamberg counties did not have significant growth in these areas. Aiken County grew by the largest amount of thirty three percent (33%) (South Carolina Statistical Abstract, 1999). Orangeburg County was second with a sixteen percent (16%) growth rate.

The conversion of farmland into residential, commercial and other land uses is prevalent throughout the LSCOG area. As shown in the farmland lost chart, the counties are losing prime farmland to development thus reinforcing the sprawl cycle while losing a perishable resource. Regulation of farmland uses has not been a priority for government official at the local county or state level. As a result, economic development programs statewide have received full attention from government officials. Most LSCOG counties as shown in the chart are encountering the economic development concerns found at the state level.

Figure IX



Source: Transportation and Land Development Questionnaire
(July 2000)

All of the counties reported increases in the number of building permits issued. Mobile home permits are the predominant construction request made in all counties except Calhoun. Calhoun County's mobile home land-use policy is more restrictive than the other counties. Many officials consider mobile home permit issuance as the most affordable type housing. Lenient land-use regulations (except for Aiken County) allow individuals and developers to build on and develop land countywide thus negatively impacting the movement of some citizens among jobs, health care, recreations and government services. Immobility among segments of the population persists and will continue as long as land-use regulations and policies remain the same.

Water and sewer infrastructure is considered by planning experts as key ingredients in determining the location, size, and type of development that will occur in a community. Most of the counties in the LSCOG do not provide any public water or sewer services to the community. Aiken and Calhoun counties offer such services on a limited basis. This process does not encourage orderly and timely

growth, as done in communities with designated water and sewer infrastructure systems. Several costly consequences of this practice were identified in the questionnaire responses:

- Citizens on average must travel three miles to solid waste disposal collection sites.
- There is increase in time and distance to health-care facilities that are located in one town.
- The number of acres of farmland lost to development is on the rise ranging from one hundred (100) acres or more in Calhoun County to five thousand (5,000) acres in Aiken over a five-year period.
- Travel time to work averages about twenty-five (25) minutes per trip.
- Emergency Services, Fire Departments and Law Enforcement response time has increased nearly thirty-five percent.

All of the above sprawl development consequences are prevalent in communities without much supervision from established planning departments. In addition, all counties do not have active Planning Commissions to coordinate planning activities and make recommendations when needed. Four (4) counties (Aiken, Barnwell, Calhoun, and Orangeburg) have active planning commissions. Normally, these commissions meet monthly or bi-monthly depending on their by-laws. The day to day management of planning functions and responsibilities are usually handled by a Planning Department. Only two (2) counties, Aiken and Orangeburg have active Planning Departments to manage planning functions on a daily basis.

The counties are split 50/50 in their response to who should be responsible for providing public transportation. Three (3) counties said the county should provide the service with state assistance. The other three (3) counties (Allendale, Bamberg, and Calhoun) said the State of South Carolina should provide all public transportation.

Most of the counties, with the exception of Bamberg agreed that the coordination among transportation agencies in the region services is in the process of organizing transportation agencies. The LSCOG holds quarterly meetings including all transportation agencies, local and state officials that are interested in providing public transportation.

The private car serves as the primary mode of transportation for most citizens in the region. All of the counties said the private car serves the majority of their citizens in their daily commutes to work, shopping, recreation centers, health-care centers, etc. Conversely, only two counties, Aiken and Orangeburg acknowledge the fact that everyone does not own a vehicle therefore making public transportation a much needed service. Sprawl development reinforcement centers, health-care facilities, and other social activities.

V. CONCLUSIONS AND IMPLICATIONS FOR ACTIONS

The six (6) counties that make up the Lower Savannah Council of Governments (LSCOG) are influenced in their community development by national, state and local governments policies. These policies directly impact personal choices by making available home loans, new highways, roads and

higher income levels. Ironically, it becomes the responsibility of all levels of government to coordinate, direct and manage population growth and land-use decisions.

The counties in the LSCOG are experiencing moderate growth like the rest of South Carolina. Unfortunately, the State has not adopted a uniform growth control or development law to provide guidance and directions for its sub units of government. Regional Planning Centers have been designated with independent agendas. Given this background, counties are given choices to allow sprawl development without proper guidelines, technical support, or incentive programs to preserve major resources.

Our findings argue for the need to better protect farmland, provide transportation services, and improve local zoning for more efficient land development. The specific policy recommendations include:

- *Require all counties to adopt comprehensive plans with zoning and other land development regulations.

- *Coordinate land-uses (i.e., agricultural, rural residential and commercial) to reflect community needs.

- *Require capital improvement plans and subdivision regulations to be done concurrently.

- *For those counties experiencing excessive growth, set-up urban growth boundaries or urban service areas with the necessary property tax incentives.

- *Coordinate and communicate with landowners about the possibility of setting up Transfer of Development Rights Program.

- *Promote planning options such as public transportation that reduce the need for automobiles.

- *Preserve the local character of downtown Orangeburg by recycling old buildings; set redevelopment design standards; and make development convenient to where people live.

- *Protect the rural character of Orangeburg by using discretion when developing rural areas; build with a plan for mixed development; encourage hiking trails and uninterrupted stretches of undeveloped area.

- *Adopt and implement land-use plans, land development codes, and building guidelines that will result in sound urban design, energy efficiency, adequate open space, and environmental protection.

- *Adopt and follow guidelines included in ISTEA Legislation.

- *Set-up communication channels that would allow all stakeholders (i.e., environmentalists, private property owners, homeowner associations and government officials) to exchange ideas and information.

Successful planning must be based on a comprised comprehensive plan with input from all interest community players. Sprawl development will continue to occur until communities step forward and adopt the necessary planning tools to help guide their future.

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